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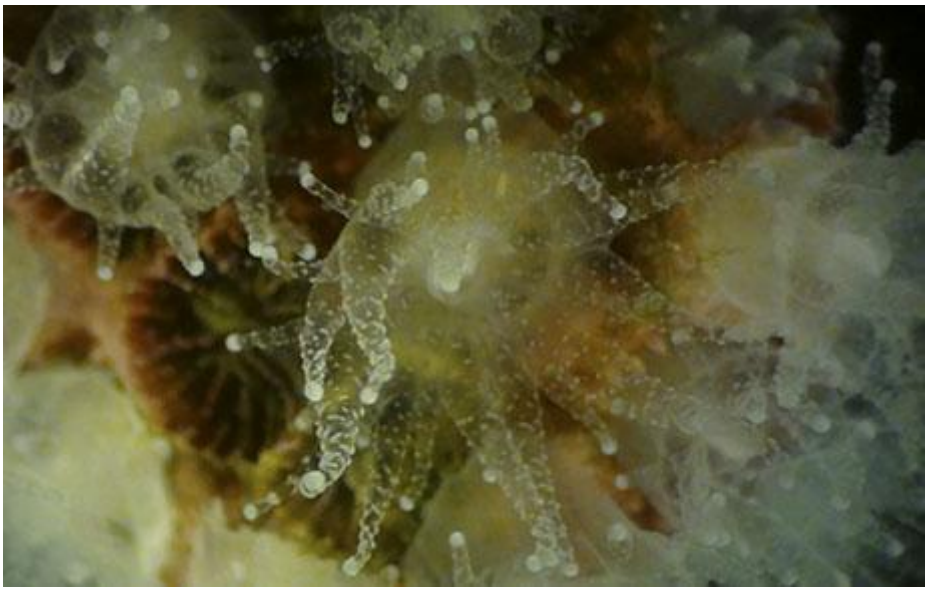
Roger Williams University sponsors workshop aimed at applying latest research on local corals toward solutions for declining tropical coral reef health around the globe



Astrangia poculata, the Northern Star Coral found in New England waters, growing inside RWU's Wetlab. Image Credit: Tyler Baskin

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BRISTOL, R.I. – With Roger Williams University's marine scientist Koty Sharp at the helm, 20 leading coral reef scientists from around the United States met at RWU last week to explore ways research on non-tropical corals in New England waters can lead to solutions for tropical coral reef health across the globe.

When imagining the depths along Rhode Island's coasts, not many realize it is home to temperate corals including *Astrangia poculata*, the Northern Star Coral which inhabits waters along the entire East Coast. Sharp has been researching this coral's microbiome for several years, bringing her work to the International Coral Reef Symposium (ICRS) in Honolulu, Hawaii, last month where she shared her latest science with more than 3,000 coral reef scientists and practitioners discussing coral reef health status, tools and solutions geared towards conservation strategies.

Following the international symposium, RWU hosted a group of 20 ICRS scientists on Aug. 2 and Aug. 3. Led by Sharp, an assistant professor at Roger Williams University, the team examined current science on the species, and how best to use their system as a model for tropical coral reef ecology.

"The Northern Star Coral has the potential to unlock some of the basic mysteries of coral reefs and resilience to climate change," Sharp says. "For example, this coral can provide insight into survival of temperature extremes. Just like all New Englanders, this coral is tough – it survives freezing winters and hot summers."

This is the second workshop Sharp has hosted on the species with a focus on finding solutions to improve health of tropical corals. The first workshop, with support from the Ocean Genome Legacy and New England Biolabs, pioneered early research collaborations on this species.

"It's a really important organism, and I'm glad to see research on this species gain some traction," says Sean Grace, co-host of the workshop and professor at Southern Connecticut State University, where he directs a research program focusing on the Northern Star Coral. Because this coral lives inhabits such a wide range of waters – all the way from the Gulf of Mexico to New England – it has the potential to be an important climate change indicator."

This species is already on display at the New England Aquarium, where Sharp's collaborator and workshop co-host Randi Rotjan operates a laboratory.

"Temperate corals are to tropical reefs as mice are to humans – not the same, but incredibly powerful as tools that can transform our current understanding of how and why organisms respond to environmental change," according to Rotjan.

RWU sponsored the two-day workshop with the goal that it fosters new multi-institutional collaborations that will advance scientists' understanding of climate change and coastal ecosystem health, according to Sharp.

"Each of us has our own specialized set of skills and approaches that forms a lens through which we see a scientific problem," Sharp says. "But when we all sit at the same table, our combined perspectives allow us to generate integrated, innovative solutions. Everyone attending this workshop agrees that research on the Northern Star Coral will allow us to determine how corals adjust to variable environment. This information is urgent for conserving coral reefs, as we face the impact of global climate change."

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